

**ARIZONA GAME AND FISH DEPARTMENT  
HERITAGE DATA MANAGEMENT SYSTEM**

**Plant Abstract**

**Element Code:** PDFAB0F470

**Data Sensitivity:** No

**CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE**

**NAME:** *Astragalus hypoxylus* Wats.

**COMMON NAME:** Huachuca Milk-vetch

**SYNONYMS:** *Hamosa hypoxylus*; *H. hypoxyla*; *Tragacantha hypoleuca*

**FAMILY:** Leguminosae

**AUTHOR, PLACE OF PUBLICATION:** Watson, S. 1883. Proceedings of the American Academy of Arts and Sciences 18: 192.

**TYPE LOCALITY:** Arizona: Cochise County: Mahoney's Ranch, near Ft. Huachuca.

**TYPE SPECIMEN:** J.G. Lemmon. July 1882.

**TAXONOMIC UNIQUENESS:**

**DESCRIPTION:** **Compact rosette of branches**, generally less than 10.0 cm (4.0 in.) in diameter, **typically flat against ground**, although the outer ends of branches may turn upward somewhat. Alternate leaves are compound with 9-13 ovate leaflets of 3.0-5.0 mm (0.12-0.2 in.) long, gray-green in color and glabrous above and sparsely pubescent underneath. **Leaflets appear folded along midrib. Inflorescence very compact and globose**, ca. 1.0 cm (0.4 in.) in diameter, somewhat resembling clover inflorescence. Flowers about 6.0 mm (0.24 in.) long with petals whitish with pale purple tips. Fruits are small oval pods 8.0-10.0 mm (0.32-0.4 in.) long and 3.0-4.0 mm (0.12-0.16 in.) in diameter. Pods indehiscent. Mature fruits typically pale yellowish toward base and are purplish toward tip.

**AIDS TO IDENTIFICATION:** The dense, subcapitate inflorescence with mat-forming growth distinguish this from others in the area.

**ILLUSTRATIONS:** USFWS Line Drawing.

**TOTAL RANGE:** Southern Arizona.

**RANGE WITHIN ARIZONA:** Cochise County: Huachuca Mountains; Santa Cruz County: Patagonia mountains.

**SPECIES BIOLOGY AND POPULATION TRENDS**

**GROWTH FORM:** Herbaceous perennial.

**PHENOLOGY:** March - April with fruit into May; Plants have dried up by June.

**BIOLOGY:** Seeds may be heavily parasitized by chalcid wasps.

**HABITAT:** Open, limestone rocky clearings in oak-juniper-pinyon woodland. Found on hillsides with slopes of 25 to 30 percent. Generally unshaded. Distinctive during the summer when other *Astragalus* have died back. May be dependent on some mild disturbance regime. Bear Creek population on Lone Mountain Allotment.

**ELEVATION:** 5,300 - 6,100 feet (1590-1861 m).

**EXPOSURE:** Southerly to southwesterly.

**SUBSTRATE:** Loosely consolidated, very gravelly or cobbly soil of limestone/metamorphic mix (association with limestone uncertain).

**PLANT COMMUNITY:** Openings in woodland of Emory oak, Mexican blue oak, alligator juniper and Mexican pinyon.

**POPULATION TRENDS:** High mortality due to drought in 1989-1990. See Gori et al. (1990) for demographic information. The populations show huge fluctuations in relation to the amount of rainfall.

## **SPECIES PROTECTION AND CONSERVATION**

**ENDANGERED SPECIES ACT STATUS:** None (USDI, FWS 1996)  
[Category 2 USDI, FWS 1993]  
**STATE STATUS:** Salvage Restricted (ARS 1993)  
**OTHER STATUS:** Bureau of Land Management Sensitive  
(USDI, BLM AZ 2000, 2005)  
Forest Service Sensitive (USDA, FS Region  
3 1990, 1999)

**REASONS FOR ENDANGERMENT:** Trampling by recreationists and livestock;  
degradation of habitat due to livestock grazing.

**SUSCEPTIBILITY TO HUMAN DISTURBANCE:** Limited range and small numbers of  
plants make this species susceptible to human disturbance.

**MANAGEMENT FACTORS:** Improvement of livestock management. Evidently the  
population in Bear Canyon was extirpated due to excessive livestock trampling.

**CONSERVATION MEASURES TAKEN:** Monitoring plots established in 1988 at the Patagonia Mountains (Harshaw Road) population. Additional monitoring plot at a Huachuca Mountains population (Bear Canyon) established in 1989.

**SUGGESTED PROJECTS:** Continue monitoring/surveying. Consider plant when developing the Lone Mountain AMP.

**LAND MANAGEMENT/OWNERSHIP:** USFS - Coronado National Forest, and private (Scotia Canyon).

## **SOURCES OF FURTHER INFORMATION**

### **REFERENCES:**

- Arizona Revised Statutes, Chapter 7. 1993. Arizona Native Plant Law. Appendix A:8.
- Barneby, R.C. 1964. Memoirs of the NY Bot. Garden. 13:1028-1029.
- Gori, D.F., P.L. Warren, and L.S. Anderson. 1990. Population studies of sensitive plants of the Huachuca, Patagonia, and Atascosa Mountains, Arizona. Prepared by The Nature Conservancy for Coronado National Forest. 114 pp.
- Levin, G.A. Noteworthy collections. Madroño, vol. 34, No. 2, pp. 170-171.
- USDA, Forest Service Region 3. 1990. Regional Forester's Sensitive Species List.
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- USDI, Bureau of Land Management. 2000. Arizona BLM Sensitive Species List. Instruction Memorandum No. AZ-2000-018.
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- USDI, Fish and Wildlife Service. 1993. Plant Taxa for Listing as Endangered or Threatened Species; Notice of Review. Federal Register 58(188):511518.
- USDI, Fish and Wildlife Service. 1996. Endangered and Threatened Wildlife and Plants: Review of Plant and Animal Taxa that are Candidates for Listing as Endangered or Threatened Species; Notice of Review. Proposed Rule. Federal Register 61(40):7595-7613.
- Warren, P.L., L.S. Anderson, and P.B. Shafroth (The Nature Conservancy). 1989. Population studies of sensitive plants of the Huachuca and Patagonia mountains, Arizona. For USFS Coronado National Forest. 99 pages.

### **MAJOR KNOWLEDGEABLE INDIVIDUALS:**

- Mima Falk - U.S. Fish and Wildlife Service, Tucson, Arizona.
- Dave Gori - The Nature Conservancy, Tucson, Arizona.
- G.A. Levin - San Diego Natural History Museum, San Diego, California.
- Jim Malusa - The Nature Conservancy, Tucson, Arizona.
- Peter Warren - Tucson, Arizona.
- T.R. Van Devender - Arizona-Sonora Desert Museum, Tucson, Arizona.

**ADDITIONAL INFORMATION:**

This species is sometimes found in ditches along roadsides. It appears to respond favorably to some disturbance.

**Revised:** 1989-10-25 (SST)  
1991-10-18 (BKP)  
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1999-08-13(DJG)

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